

What is Claimed is:

- [c1] 1. A process for minimizing thermal gradients across a mask, comprising the steps of:
 applying a heat source to the mask through a filter; and
 operating the filter such that the radiation from the heat source passes to areas of the mask that are not being exposed to radiation while filtering heat to those areas of the mask which are subject thermal heating due to the radiation.
- [c2] 2. The process of claim 1 wherein the filter filters the radiation from the heat source such that the radiation illuminates portions of the mask not illuminated by lithography system optics.
- [c3] 3. The process of claim 1 wherein the filter is comprised of a density pattern complimentary to the pattern density of the mask.
- [c4] 4. The process of claim 1 wherein the filter controls the wavelength of the radiation that passes through it.
- [c5] 5. The process of claim 2 wherein the filter is comprised of both a pattern that illuminates portions of the mask not illuminated by the lithography system optics and a density pattern complimentary to the pattern density of the mask.
- [c6] 6. The process of claim 5 wherein the filters are separate filters.
- [c7] 7. The process of claim 2 wherein the filter also controls the wavelength of light that passes through it.
- [c8] 8. The process of claim 1 wherein the filter is made from liquid crystal technology.
- [c9] 9. The process of claim 4 wherein the filter is an acousto-optic filter.
- [c10] 10. The process of claim 1 wherein the filter is an optical mask.
- [c11] 11. The process of claim 1 wherein the heat source moves in conjunction with reticle movement.

- [c12] 12. The process of claim 11 wherein the heat source movement is accomplished by rotation.
- [c13] 13. The process of claim 1 wherein the heat source source is stationary and the filter provides a pattern through liquid crystal technology.
- [c14] 14. A lithography system, which comprises:
an illumination source;
a reticle;
a heat source; and
a filter for the heat source, the filter which comprises a structure which that allows the radiation from the heat source to provide illumination on selected portions of the reticle which are otherwise subject to thermal gradients.
- [c15] 15. The lithography system of claim 14 wherein the filter is structured such that it filters the radiation from the heat source such that the radiation illuminates portions of the mask not illuminated by the lithography system optics.
- [c16] 16. The lithography system of claim 14 wherein the filter is comprised of a density pattern complimentary to the pattern density of the mask.
- [c17] 17. The lithography system of claim 14 wherein the filter is comprised of liquid crystal technology that controls the intensity of the radiation passing through it.
- [c18] 18. The lithography system of claim 15 wherein the filter is comprised of a second filter which is comprised of a density pattern complimentary to the pattern density of the mask.
- [c19] 19. The lithography system of claim 15 wherein the filter is comprised of a second filter that is comprised of liquid crystal technology that controls the radiation passing though it.
- [c20] 20. The lithography system of claim 14 wherein the lithography system also comprised a control device coupled the reticle and the filter, the control device coordinating the operation of the filter with illumination of the reticle.

